

CLAIMS

Sub A-2
5 1. An emission control exhaust gas aftertreatment apparatus for exhaust gases from diesel engines, especially light duty diesel engines, comprising a source of NO₂ and a particulate trap, characterised in that an exhaust gas by-pass is provided so that a portion of the exhaust gases do not pass through the trap, such that at most 85wt% of engine-out particulates are collected on the trap and combusted in the presence of said NO₂ in said trap.

10 2. An apparatus according to claim 1, wherein said by-pass is effective only when substantial trapping of unburnt particulates has occurred.

3. An apparatus according to claim 1 wherein said by-pass is effective under all operating conditions and at least 50wt% of particulate matter is trapped and combusted.

Sub A-3
15 4. An apparatus according to claim 2 or 3, wherein the source of NO₂ is a catalyst which is effective to convert at least a portion of the NO in the exhaust gases to NO₂

5. An apparatus according to claim 4, wherein the exhaust gases pass through the catalyst before passing through the trap.

Sub A-4
20 6. An apparatus according to any one of the preceding claims, arranged such that at least 50wt% of particulate matter is trapped and subsequently combusted when operating conditions in the same or subsequent operating cycle are improved.

25 7. An apparatus according to any one of the preceding claims, in combination with NOx control means, preferably a NOx absorbent.

30 8. An apparatus according to claim 7, wherein said NOx absorbent is effective to trap NOx at relatively low exhaust gas temperatures, and releases NOx when the exhaust gas temperature exceeds about 250°C for conversion and/or consumption in the combustion of particulate matter.

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9. A method of controlling emissions, especially particulate matter, from diesel engine exhaust gases by trapping and subsequently combusting said particulate matter, comprising trapping at most 85wt% of particulate matter in said exhaust gas in particulate trapping means and combusting said trapped particulate matter in the presence of NO_2 and causing a portion of said exhaust gases to by-pass said particulate trapping means.

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10. A method according to claim 9, comprising using an exhaust gas by-pass such that at least 50wt% of particulate matter is collected and combusted, and the exhaust gas by-pass is effective only when there is complete or substantial blocking of the trap.

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